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Notice of Allowability	Application No.	Applicant(s)	
	10/661,452	LIU ET AL.	
	Examiner	Art Unit	
	Leo Boutsikaris	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 4/11/06.
2. ☒ The allowed claim(s) is/are 18-34 and 36.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|---|---|

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Walter Grollitsch (Reg. No. 48,678) on 4/21/2006.

The application has been amended as follows:

IN THE CLAIMS

Claim 19 is re-written as follows:

19. A cascaded re-configurable system having two or more re-configurable channel dropping de-multiplexers, comprising:

a first re-configurable channel dropping de-multiplexer, comprising:

an input for receiving a plurality of channels;

a first polarizing port optically coupled to the input;

a first polarization modulator optically coupled to the first polarizing port;

a polarization beam splitter (PBS) having a first side that is optically coupled to the first polarization modulator at a side opposite to the first polarizing port;

a second polarization modulator optically coupled to the PBS at a second side of the PBS that is opposite to the first side;

a second polarizing port optically coupled to the second polarization modulator at

Art Unit: 2872

a side opposite to the PBS; and

a multiple-channel output optically coupled to the second polarizing port; and

a second re-configurable channel dropping de-multiplexer, optically coupled to

the first re-configurable channel dropping de-multiplexer, comprising:

an input, coupled to the multiple-channel output of the first re-configurable

channel dropping de-multiplexer;

a first polarizing port optically coupled to the input;

a first polarization modulator optically coupled to the first polarizing port;

a polarization beam splitter (PBS) having a first side that is optically coupled to

the first polarization modulator at a side opposite to the first polarizing

port;

a second polarization modulator optically coupled to the PBS at a second side of

the PBS that is opposite to the first side;

a second polarizing port optically coupled to the second polarization modulator at

a side opposite to the PBS; and

a multiple-channel output optically coupled to the second polarizing port, wherein

each re-configurable channel dropping de-multiplexer further comprises a first quarter-wave

($N/4$) plate optically coupled to the PBS at a side of the PBS that is not parallel to either of the

first two sides.

Claim 35 is cancelled.

The following is an examiner's statement of reasons for allowance:

Art Unit: 2872

Claims 18-34, 36 are allowable over the prior art of record for at least the reason that even though the prior art discloses optical systems comprising a polarizing port (e.g., a birefringent crystal) and a polarization modulator (e.g., a liquid crystal cell changing the polarization of incident light signal in response to a modulation signal) on two different sides of a polarizing beam splitter, the prior art fails to teach or reasonably suggest, regarding claim 18, a reconfigurable channel dropping demultiplexer comprising an isolator core optically coupled to the PBS at a third side of the PBS that is not parallel to either of the first two sides, regarding claims 20-29, a reconfigurable channel dropping demultiplexer comprising a first quarter wave plate optically coupled to the PBS at a third side of the PBS that is not parallel to either of the first two sides, regarding claims 30-34, a reconfigurable channel dropping demultiplexer comprising a first quarter wave plate optically coupled to the PBS at a side s2 of the PBS that is opposite to the first side s1, and regarding claims 19, 36, a cascaded re-configurable system having two or more re-configurable channel dropping de-multiplexers, wherein each re-configurable channel dropping de-multiplexer further comprises a first quarter-wave ($\lambda/4$) plate optically coupled to the PBS at a side of the PBS that is not parallel to either of the first two sides, as set forth by the claimed combination.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2872

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Leo Boutsikaris whose telephone number is 571-272-2308.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leo Boutsikaris, Ph.D., J.D.
Primary Patent Examiner, AU 2872
April 21, 2006



LEONIDAS BOUTSIKARIS
PRIMARY EXAMINER